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RESEARCH AND DEVELOPMENT

MONTHLY REPORT

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JANUARY 1982

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Key to Distribution:

A. Complete Report

B. All except Research Report

C. All except Special Projects Research and those reports which might interfere with patent considerations

D. Subject No 9, 12, 15, 17, 18, 19, 21, 24

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PROJECT TITLE : BIOTECHNOLOGY

PERIOD COVERED : DECEMBER 1981 - JANUARY 1982

WRITTEN BY : Berney-J. (JBE)

Strip-Extract Denitration

During a fermentation test with Candida utilis 707 in the pilot plant where a normal strip extract was used, the nitrate assimilation was found to be incomplete. However, when recycled extract was used, the nitrate assimilation was 100%.

Recycled extract was then used in a fermentation test performed in the laboratory. The test conditions were the same as those in the pilot plant. This recycled extract contained 500 ppm $N\text{-}NO_3$ + $N\text{-}NH_4$ before fermentation. Here again, the nitrate assimilation was total.

However, when a recycled extract containing 1200 ppm $N\text{-}NO_3$ + $N\text{-}NH_4$ before fermentation was used, the nitrate assimilation was only about 50% (1).

Further tests will be performed in order to discover the reasons for this phenomenon.

(1) Notebook, Berney-J. No 81 10 01

JBE/jud/JANUARY 20, 1982

00014388

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PROJECT TITLE : LAUNDRYMAN

PERIOD COVERED : DECEMBER 15, 1981 - JANUARY 15, 1982

WRITTEN BY : Villard-J.-M. (JMV), Piadé-J.-J. (JJP)

- In order to improve salt casing of tobacco the possibility of impregnating tobacco is being investigated (1).

  Optimization of the drying step of the impregnation process is presently being worked out (2). Some experiments have been made to recycle the drainage water in order to avoid the loss of tobacco solubles during the impregnation process.

- Humidity and temperature controls in the conditioning room were modified (2).

  An additional heater has been installed to improve the temperature stability.

  A humidity tester was received and after extensive tests it appeared defective and was sent back for repair.

- A Borgwald 20-port smoking machine is being modified for simultaneous sidestream and mainstream smoke CO yield determination.

  The installation of the smoking machine is held up due to mechanical problems. Parts have been ordered.

MISCELLANEOUS

- A bibliographic survey and cost estimate is being made for a comprehensive chemical evaluation of sidestream smoke in an experimental closed chamber.

- A bibliographic survey was initiated on tobacco heat-stiffening and the WET process. Preliminary experiments are being set up.

REFERENCES

(1) Piadé-J.-J., PME Monthly Progress Report - November 1981.
(2) Villard-J.M., PME Monthly Progress Report - November 1981.

WAF/jig/JANUARY 20, 1982

2000142889

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PROJECT TITLE : SALAMANDER II

PERIOD COVERED : DECEMBER 17, 1981 - JANUARY 17, 1982

WRITTEN BY : MURRAY-M (MUM)

A number of different analytical systems have been tested for the liquid chromatographic separation of the reaction products of a 500-ppm nitrogen dioxide/air mixture under standard ISH measurement conditions. Columns tested were :

Zorbax - ODS
Partisil SCX
Zorbax - NH_2
Brownlee Labs - NH_2
Lichrosorb - NH_2
Partisil - SAX

Difficulties were encountered due to the low solubility of cystine in solvent mixtures compatible with the columns and having a sufficiently low UV absorbance at 210 nm to permit detection.

Of the columns tested, Zorbax - ODS, Partisil - SCX and Brownlee Labs - NH_2 failed to give sufficient separation between cysteineand cystine. Zorbax - NH_2 initially gave a clear separation but deteriorated rapidly for unknown reasons. Three subsequent columns from this supplier failed to meet the minimum performance specifications and have been returned. The initial results showed that about 38% of the cysteine present reacts to give cystine as principal reactions product (90%).

Efforts to confirm this result using a Lichrosorb - NH_2 column have shown the presence of a reaction product coeluting with cysteine. Cysteine and several other reaction products are clearly separated. Separation conditions are now being tried under ion exchange conditions on Partisil - SAX.

FUTURE PLANS

When a satisfactory analysis of the reaction products of cysteine and NO_2 has been made, it is hoped to extend this analysis to the reaction products of smoke passing through a cold trap maintained at -117°.

MUM/jig/JANUARY 19, 1982

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PROJECT TITLE : AGRICULTURAL CHEMICALS

PERIOD COVERED : NOVEMBER 1981 - JANUARY 1982

WRITTEN BY : M. Speck

ROUTINE PESTICIDE ANALYSES

The number of samples analysed for pesticide residues in the period of November 1981 to January 1982 is as follows :

Organochlorines	105
Organophosphorus	105
Methamidophos	2
Dithiocarbamate	101
Maleic Hydrazide	81
Ridomil	50

The total number of samples analysed for pesticide residues at INBIFO in 1981 is given in Table 1.

Table 1 : Number of Samples Analysed in 1981.

Month	Organo-chlorines	Organo-phosphorus	Dithio-carbamate	Maleic Hydrazide	Ridomil
Jan	20	20 (3)	14	15	0
Feb	40	40	32	32	11
Mar	58	58	58	11	0
Apr	75	75	75	74	0
May	57	57	57	57	0
Jun	17	17 (8)	14	18	0
Jul	31	31 (2)	29	29	30
Aug	29	29 (9)	29	33	14
Oct	77	77 (4)	76	66	50
Nov	26	26	25	23	15
Dec	44	44 (2)	43	31	13
TOTAL	474	474 (28)	452	389	133

(a) Numbers in brackets : additional determinations of Methamidophos

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Whereas the total number of samples analysed in 1981 was significantly lower than in 1980, the number of samples to be analysed for Maleic Hydrazide in 1981 was about 20% higher than in 1980 (Table 2).

Table 2 : Number of Pesticide Analyses from 1977 to 1981

YEAR OF DE-TERM.	ORGANO-CHLOR.	ORGANO-PHOSPH. (a)	DITHIO-CARB.	MALEIC HYDRAZ.	RIDOMIL	SUM
1977	769	769	500	82	0	2120
1978	773	773	452	191	0	2189
1979	805	805 (31)	430	176	0	2247
1980	641	605 (129)	517	325	150	2367
1981	474	474 (28)	452	389	133	1950

(a) Number in brackets : Additional determinations of Methamidophos

MH - 30

Some PM brands selected by Leaf Department, Lausanne, as well as Camel (Germany) were checked each month from January to July 1981 for MH - 30 residues. The brands analysed and MH - 30 values found are summarized in Table 3. (For the monthly checks between June and December 1980 see Ref. (1)). In no case were the MH - 30 residues on finished products found to exceed the 80 ppm limit recommended in the "West German Regulation on Maximum Pesticide Residue Levels". There was no noticeable trend to higher MH - 30 values from January to July 1981.

REFERENCE

(1) M. Speck, PME Monthly Progress Report - May 1981.

MS/jig/JANUARY 20, 1982

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Table 3 : MH - 30 Residue Values (ppm) of PM Brands and of Camel (Germany) between January and July 1981

	January	February	March	April	May	June	July
PMI Munich (PMI 01)	(a)	38.4	32.3	37.2	32.3	(a)	35.3
MLF Serrières (MLF 21)	55.7	53.0	38.4	30.3	46.8	48.4	46.5
MLF Holland (MLF 20)	52.6	49.2	44.5	51.1	46.8	44.2	49.9
MLF Austria (MLF 06)	38.4	38.9	30.7	32.6	33.8	37.6	28.0
MLK London (MLK 09)	53.0	56.8	51.8	53.4	50.3	23.0	52.2
MLB Weltab (MLB 18)	49.2	(a)	(a)	(a)	(a)	(a)	(a)
MLB Eindhovn (MLB 02)	42.2	59.1	43.0	47.2	48.4	40.3	57.6
Camel Germany	40.0	25.3	35.3	40.3	30.3	35.7	44.2

(a) No sample available

2000143893

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PROJECT TITLE : ANALYTICAL INVESTIGATIONS

PERIOD COVERED : NOVEMBER 25, 1981 - JANUARY 15, 1982

WRITTEN BY : Murray-M. (MUM), Lecoultre-E. (ETL), Moser-F. (FMO), Piadé-J.-J. (JJP), Genoud-Y. (YVG).

TROUBLE-SHOOTING

Headspace analyses (at 25° and 80°C) and carboxylic acid determinations by GC^2 were performed upon request by Product Development on 59 RL, LTR and RCB samples of project TASK. GC^2-MS identification of the carboxylic acids present has been completed. The correlations between organoleptic and GC analyses of these samples has been examined (ETL, FMO, MUM).

METHOD DEVELOPMENT

- A method for nicotine analysis in sidestream smoke has been tested using a bell-shaped sidestream smoke chamber and a variety of trapping systems. Reaction conditions have been optimized (MUM).

- A method for water analysis in tobacco by GC is currently being set up (MUM).

- The feasibility of nicotine quantitation in tobacco by the headspace GC^2 technique is currently being investigated (FMO).

- Work on the HPLC method for underivatized amino acid quantitation has been completed. The method was tested with an experimental sample provided by Biotechnology. The method uses a 5 µm NH_2-column with a pH 4.0 phosphate buffer and acetonitrile. Concurrent quantitation of glucose and fructose is still under investigation (JJP).

SERVICE FOR OTHER GROUPS

- Nicotine and minor tobacco alkaloids were determined in 6 samples submitted by Biotechnology. Total and organic carbon content was also measured in these samples (MUM).

- Routine analyses were performed for Biotechnology on potassium, calcium and magnesium in 15 samples (MUM).

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- Nicotine was analysed in the sidestream and the mainstream smoke of 26 cigarette prototypes of project COMPO submitted by Product Development (MUM).

- Upon the request of QC, Freon was analysed in 3 brands from our competitors (FMO).

- Upon request by Product Development PVA has been identified by infrared spectroscopy as cigarette seam glue in a competitor's brand (MUM).

  Results were confirmed by GC^2/MS (ETL).

- The SH index was determined in 4 experimental cigarettes submitted by Biotechnology and in 12 TLA samples (MUM).

- DMN/NPY and NNN/NNK/NAtB were analysed in the sidestream smoke of 6 experimental cigarettes of projects SAVOURY and PROTAGORAS (MUM).

- As assistance to project SAVOURY, the carbon monoxide yields in the sidestream and mainstream smoke of 4 experimental cigarettes were determined (JJP).

- The glycerol-propionate-diacetate isomer content was analysed in a Celanese triacetin sample submitted by PM Richmond (YVG).

WAF/jig/JANUARY 19, 1982.

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PROJECT TITLE : PILOT-PLANT OPERATIONS

PERIOD COVERED : NOVEMBER 26, 1981 - JANUARY 19, 1982

WRITTEN BY : Lüthi-N. (NIL)

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1. MAINTENANCE AND IMPROVEMENTS IN THE EQUIPMENT IN THE PILOT-PLANT

The maintenance of the equipment in the Pilot-Plant was carried out according to plan and was completed on January 15, 1982 (1).

In addition, with the assistance of the FTR workshop, different parts of the equipment were improved and the piping system for the closed-loop operation is now in its final position.
All the equipment was cleaned and overhauled and, except for the large fermentor, is ready for further trials.

1.1. Dewatering

Our make-shift roller was installed at the outlet of the rotocell extractor. For the next LEAR trial, we will try different systems for creating the vacuum under the belt. These systems offer the possibility of re-adding the squeezed and sucked-out extract back into the fermentor.

1.2. Rotocell Extractor

During LEAR trials 12 and 13, several problems were observed with the continuous feeding system. It was examined, and a temporary solution was found by reducing the speed of the vertical conveyor which moves upwards and downwards. Nevertheless during the next shut down period of the Pilot-Plant, the system will have to be modified. Heat-exchangers were installed on two of the sections of the extractor through which the extract is pumped.

1.3. Fermentor

The fermentor was completely cleaned, overhauled and examined with the assistance of a Chemap engineer.
A first sterilization test after this maintenance period again showed a contamination of the fermentor. This time the fermentor was dismantled, cleaned and washed with a 2% formalin solution. After this treatment the fermentor, including the air system, remained sterile for about 74 hours.
A contamination was again observed after some injections of antifoam, and the antifoam sterility system is now being examined.

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1.4. Centrifuge

Trials with the rented Westfalia centrifuge gave much better results than those obtained with the existing Alfa-Laval centrifuge (2). Therefore a decision was taken to purchase a Westfalia centrifuge. It arrived on January 15 and was installed.

2. PERSONNEL

A new operator started work on December 1, 1981, and has finished his training program.

3. REFERENCES

1. "Révision de l'installation-pilote, décembre 1981 - janvier 1982" report from R. Perrinjaquet, January 1982
2. "Evaluations comparatives des séparateurs centrifuges Alfa-Laval et Westfalia", report from M. Hofer, December, 1981.

U. Wille

NIL/sde/JANUARY 21 1982

0001438977

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	CIGARETTE DEVELOPMENT 1
PERIOD COVERED	:	OCTOBER 27, 1981 - JANUARY 12, 1982
WRITTEN BY	:	Singer-Z.

427 KURT

Objective

To reduce the smoke delivery of BOND LTN (BSD).
DPM : 9.0 mg/cig.
SN : 0.9 mg/cig.
CO : 9.0 mg/cig.
FORMAT : 7.25 / 20 / 78 mm

Summary

The reduction of the DPM level from the current 11.5 mg down to 9 mg could be achieved :
- by using filtering materials of higher retention capacity
- by increasing the dilution
- by tobacco blend modifications
- by a combination of the above

A cigarette paper of higher porosity than the existing Wattens 60 (53 ml/cm^2/min) could have a somewhat negative influence on the quality of the first puffs.

Description of samples and results

1.1 In order to achieve the objective, the first trial was performed by increasing the dilution.
By replacing the existing FU-POV 40 L by the more porous FU-POV 150, the dilution level was brought up from 32 % to 47 % followed by a reduction in the smoke figures. In this case, the other tobacco and non-tobacco materials remained unchanged, i.e. they were the same as those of the BSD. Prototype No 4 P was retained as being in general a good quality cigarette.

1.2 Later on, other cigarette papers were tested on prototype No 4 with the intention of improving the organoleptic characteristics of the product. For a description of the cigarette papers used, see the table on the next page. The standard cigarette paper Wattens 60 is also given for comparison.

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Cigarette paper designation	Porosity ml/cm²/ min	Burning rate sec/ 15 cm	Additive type	Additive content %	Fiber type
Wattens 60	53	53	Citrate Phospha-te	2.4 0.3	Cellu-lose
IVY MC HP 5 M	44	56.7			
IVY MC HP 8 M	66	62.6			
Wattens 70 Cl	65	56	Citrate Phosph-te	2.4 0.6	Cellu-lose
Mauduit 110-6	41	45	Citrate	1.2	Flax/ hemp

Only prototype No 5 using Fletcher IVY MC HP 5 M cigarette paper was in the BOND taste direction. However, it was found to be softer, milder and too delicate for the Swedish market.

1.3 Still on the basis of prototype No 4 P, trials were carried out with different filter tows :
- 2.5 Y / 40'000 white tow having the same efficiency and RTD as the standard 3.4 I / 46'000 while being about 10 % cheaper (due to the 15 % weight saving).
- 2.5 Y / 48'000 white tow being more efficient and having a higher RTD than the standard one.

No positive results were achieved as far as the taste qualities were concerned.

2. The new tobacco blend No SW0242701N02 containing 16 % of ET was incorporated in the standard BSD cigarette construction. The smoke figures were within the objectives. Prototype 11 P was very well accepted by the expert Panel A.

Follow-up

Before being presented to the Swedish Marketing Department, prototypes Nos 4 and 11 will be reproduced in order to confirm the smoke figures. A description of the two prototypes is given in the table on the next page.

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PROJECT NAME : K U R T | PROJECT NO : 427 | PROJECT LEADER : ZDS | DATE : 01.1.1982

PROTOTYPE NO		4 P	11 P	BSD
BLEND NO		054-427BS004	SW0242701N02	054-427BS004
TA	%	2.36	2.12	2.38
NITRATE-NITROGEN	%	0.19	0.30	0.17
REDUCING SUGARS	%	8.9	8.9	9.5
FORMAT : DIAMETER	mm	7.28	7.28	7.29
FILTER LENGTH	mm	20	20	20
CIGARETTE LENGTH	mm	77	78	78
TOTAL WEIGHT	mg/cig.	830	799	828
TOBACCO WEIGHT AT 12 % O.V.	mm	615	574	620
CIGARETTE RTD	mm WG	100	126	122
DILUTION	%	47	39	32
CIGARETTE PAPER		WP 60	WP 60	WP 60
TIPPING PAPER		Z4/120	Z4/120	Z4/120
FILTER : TYPE		Single	Single	Single
TOW		3.4 I / 46'000	3.4 I / 46'000	3.4 I / 46'000
PAPER		FU-POV 150	FU-POV 40	FU-POV 40
RTD	mm	89	99	91
DPM	mg/cig.	8.9	8.7	11.5
SN	mg/cig.	0.81	0.73	1.1
CO	mg/cig.	8.2	8.7	11.1
NO	mg/cig.	0.13	0.15	0.15
PUFF COUNT		8.5	8.2	8.1

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

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426 INGE

Objective

To develop a MARLBORO DB line extension in the ultra low tar sector.
K : not determined
N : 0.4 mg/cig.
CO : less than or equal to 0.7 mg/cig.
NO : less than or equal to 0.12 mg/cig.
FORMAT : 7.95 / 21 / 84 mm
7.95 / 25 / 84 mm

Summary

The objective described corresponds to that of the project BUBBLE ULTRA (see monthly report "Cigarette Development 3" of June-September, 1981, December-January, 1981-1982), except for the filter length which should be, if possible, 21 mm.

Description of samples and results

The selected BUBBLE ULTRA prototypes Nos 5, 9, 11 and 12 P were sent to PMG Munich to be analysed by using the DIN method giving the K and N values. At the same time, the cigarettes were eva luated by the local smoking Panel B and submitted to the German Marketing Department who requested versions 9 and 11 fitted with a 21-mm filter plug. This alteration necessitated a complete re-engineering of the cigarette construction.

It should be noted that the FTR machinery is not equipped for making king size cigarettes with a 21-mm filter, therefore the development work should be based on a 20-mm filter length only.

By using the Filter Type and Dilution Prediction Program, two constructions, differing from each other in the filter tow used, were suggested.

The trials were run by utilizing the tobacco blend No PM0242201N02 from project BUBBLE ULTRA.

The two prototypes (Nos 1 and 2) were within the analytical objectives. However, as far as their organoleptic characteris- tics are concerned, both cigarette prototypes were of lower quality than the BUBBLE ULTRA prototypes; the typical MARLBORO characteristics (especially body) were missing.

Comments

If the filter length has to stay at 21 mm, the cigarette construction should be modified and if necessary some blend adjustments should be made in order to reduce the puff count.

2000143901

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PROJECT NAME : I N G E PROJECT NO : 426 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO BLEND NO		1 P PM0242201N02	2 P PM0242201N02	9 P PM0242201N02	11 C PM0242201N02
TA	%	1.71	1.70	1.76	1.63
NITRATE-NITROGEN	%	0.20	0.20	0.21	0.20
REDUCING SUGARS	%	9.3	8.5	9.3	8.2
FORMAT : DIAMETER	mm	7.92	7.92	7.95	7.95
FILTER LENGTH	mm	20	20	25	25
CIGARETTE LENGTH	mm	84	84	84	84
TOTAL WEIGHT	mg/cig.	930	938	858	920
TOBACCO WEIGHT AT 12 % O.V.	mm	691	697	608	624
CIGARETTE RTD	mm WG	96	95	81	87
DILUTION	%	62	64	51	63
CIGARETTE PAPER		Ecusta 753	Ecusta 753	Ecusta 753	Ecusta 753
TIPPING PAPER		4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5
FILTER : TYPE		Single	Single	Single	Single
TOW		2.5 Y / 48'000	3.3 Y / 55'000	2.5 Y / 40'000	3.3 Y / 55'000
PAPER		FU-POV 100	FU-POV 100	FU-POV 150	FU-POV 100
RTD	mm	86	83	82	105
TAR (K)	mg/cig.	5.2 (4.8)	4.6 (4,3)	5.6 (5.2)	3.7 (3.4)
SN (N)	mg/cig.	0.43 (0,38)	0.40 (0.35)	0.42 (0.37)	0.21 (0.18)
CO	mg/cig.	4.6	4.2	5.4	3.9
NO	mg/cig.	0.10	0.09	0.10	0.08
PUFF COUNT		9.6	9.4	7.2	8.3

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

2060143902

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425 CATHERINE

Objective

To develop a MARLBORO 100'S for Germany having, if possible, the same K / N deliveries as the king size version, i.e. :
K : 13 mg/cig.
N : 0.8 mg/cig.

Description of samples and results

The tobacco blend ML 027 of the diluted MARLBORO DB (MLK 12) was incorporated in the standard MLH 04 cigarette construction. The tobacco weight was calculated using the same filler density as that of the MLK 12.
For a description of the cigarette, see the table on the next page. The prototype was very well accepted by the expert Panel A. However, if the smoke figures cannot be improved a new tobacco blend should be used.

2000143903

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PROJECT NAME : C A T H E R I N E PROJECT NO : 425 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO		2 P
BLEND NO		ML 027
TA	%	1.58
NITRATE-NITROGEN	%	0.13
REDUCING SUGARS	%	10.9
FORMAT : DIAMETER	mm	7.79
FILTER LENGTH	mm	25
CIGARETTE LENGTH	mm	99
TOTAL WEIGHT	mg/cig.	1220
TOBACCO WEIGHT AT 12 % O.V.	mm	914
CIGARETTE RTD	mm WG	93
DILUTION	%	27
CIGARETTE PAPER		Wattens 60
TIPPING PAPER		Z4/80
FILTER : TYPE		Single
TOW		5.0 I / 46'000
PAPER		FU-POV 40
RTD	mm	61
TAR (K)	mg/cig.	15.4 (13,8)
SN (N)	mg/cig.	1.04 (0.91)
CO	mg/cig.	16.6
NO	mg/cig.	0.18
PUFF COUNT		11.6

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001143904

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

407 VIEJO

Objective

To develop a BELMONT line extension with :
DPM : 4 mg/cig.
SN : 0.4 mg/cig.
FORMAT : 7.95 / 20 / 79.4 mm

Summary

Discussions are still continuing as to which tobacco blend the development should be based on.
The use of the blend containing expanded tobacco, such as PHILIP MORRIS SUPER LIGHTS PMS (25 % of ET), seemed to be the easiest way to achieve the above objective.
However, due to the problems, which were recently solved, of exporting expanded tobacco to Finland (excise duty, transport cost) the ET could not be taken into consideration.

Description of samples and results

1. The results of the preliminary study made on the computer by using the Smoke Yield, Filter Type and Dilution Prediction Program showed that the target figures could be obtained, even with the BELMONT EXTRA MILD BEO tobacco blend (0 % of ET), while still keeping a reasonable puff count.

2. Using the PMS blend No FR0240501N02 prototypes of different cigarette constructions were produced. Two of them Nos 2 and 5 came within the objectives. A description is given in the table on the next page.

Follow-up

The new tobacco blend formula containing 18 % of ET is expected soon.

B. Ringn

01.18.1982/ZDS/cap

0001143905

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME : V I E J O PROJECT NO : 407 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO BLEND NO		2 P FR0240701N02	5 P FR0240701N02	PMS *
TA	%	1.68	1.72	1.87
NITRATE-NITROGEN	%	0.21	0.23	0.22
REDUCING SUGARS	%	10.2	10.2	7.9
FORMAT : DIAMETER	mm	7.93	7.96	7.93
FILTER LENGTH	mm	20	20	25
CIGARETTE LENGTH	mm	79	79	84
TOTAL WEIGHT	mg/cig.	865	862	921
TOBACCO WEIGHT AT 12 % O.V.	mm	638	633	642
CIGARETTE RTD	mm WG	79	76	99
DILUTION	%	64	67	60
CIGARETTE PAPER		110-6	110-6	Ecusta 708
TIPPING PAPER		4 M. 0.3 . 3.5	3 x 0.2 x 0.3	6 M. 0.15 . 4.5
FILTER : TYPE		Single	Single	Single
TOW		2.5 Y / 51'000	2.5 Y / 51'000	2.5 Y / 48'000
PAPER		FU-POV 100	FU-POV 100	FU-POV 100
RTD	mm	86	84	106
DPM	mg/cig.	4.6	4.3	4.6
SN	mg/cig.	0.42	0.40	0.39
CO	mg/cig.	4.0	3.2	5.5
NO	mg/cig.	0.07	0,06	0.10
PUFF COUNT		9.0	9.1	8.0

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

* : C.I.R. 6-7, 1981

0001423906

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	CIGARETTE DEVELOPMENT 2
PERIOD COVERED	:	DECEMBER 9, 1981 - JANUARY 11, 1982
WRITTEN BY	:	Frattolillo-A.

208 TENNIS UK BLENDING OF CUT-FILLERS

This is a summary of the work which has been done on the hand-blended cut-fillers produced in different ratios, with the intention of obtaining an index of the quality and regularity of the final product and to evaluate the feasibility of such a method on an industrial scale.

Objective

The development of intermediary products, i.e. cigarette prototypes, by means of cut-filler blending, for the gradual introduction of the Pan-European MARLBORO in the UK.

Description of samples and results

For the purpose, a non-cased tobacco cut-filler under blend No GB0120803N02 used for prototype No 23 T (first step) and a fully cased tobacco cut-filler under blend No GB0120804N02 used for prototype No 53 T (final step), were used. The differences between the two blends are presented below :

PROTOTYPE NO 23 T TOBACCO BLEND NO GB0120803N02	PROTOTYPE NO 53 T TOBACCO BLEND NO GB0120804N02
COMPOSITION	COMPOSITION
7.0 % Esther	7.3 % Esther
11.0 % LTR UK	19.3 % RL UK
26.5 % FC (US)	24.5 % FC (US)
20.0 % FC	6.8 % FC
16.5 % Burley (US)	17.9 % Burley (US)
8.0 % Burley	9.7 % Burley
11.0 % Oriental	14.5 % Oriental
TREATMENTS	TREATMENTS
EAC-69	EAC-46
No casings	Fully cased
No flavoured filter	No flavoured filter

0001433907

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

The two cut-fillers above were hand-blended in three ratios i.e. 25:75; 50:50 and 75:25. The cut-fillers thus obtained were then incorporated in the Pan-European MARLBORO construction. At the same time, control cigarettes were produced by using separately the 100 % cut-fillers of the two prototypes.
The physical and chemical results of the produced prototypes are shown in the table on the next page, where the numbers in brackets indicate the already described 100 % tobacco filler of prototypes 23 T and 53 T respectively.

0000143908

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME : TENNIS | PROJECT NO : 208 | PROJECT LEADER : ANF | DATE : 01.18.1982

PROTOTYPE NO		60 P	61 P	62 P	63 P	64 P
FILLER COMBINATIONS		100 % (23 T)	75 % (23 T) 25 % (53 T)	50 % (23 T) 50 % (53 T)	25 % (23 T) 75 % (53 T)	100 % (53 T)
CIGARETTE CHARACTERISTICS						
Format	mm	7.95 / 20 / 84				
Cigarette paper		Wattens 60				
Tipping paper		Z3 / 60				
Plug-wrap		FU-POV 24 L				
Filter		3.4 I / 46				
Total cigarette weight	mg/cig.	974	1002	1021	1042	1050
Tobacco weight	mg/cig.	753	777	794	813	830
Total RTD	mm WG	101	110	113	112	107
Filter RTD	mm WG	63	70	74	71	67
Dilution	%	16	16	16	17	18
Filler density at 12 % M	mg/ml	239	245	251	254	258
Compressibility at 12 % M	mm	3.47	3.46	3.32	3.28	3.12
FILLER CHARACTERISTICS						
Total alcaloids	%	1.86	1.92	1.90	1.88	1.91
Reducing sugars	%	10.2	9.7	9.0	7.9	8.8
Nitrate-Nitrogen	%	0.16	0.20	0.25	0.26	0.26
SMOKE ANALYSES						
TAR	mg/cig.	14.2	14.1	13.5	13.5	15.2
DPM	mg/cig.	15.4	15.3	14.6	14.6	16.3
SN	mg/cig.	1.19	1.17	1.10	1.09	1.14
CO	mg/cig.	14.8	14.6	14.4	14.7	15.8
NO	mg/cig.	0.18	0.18	0.20	0.22	0.25
Puff count		8.5	8.5	8.6	9.1	9.4

COMMENTS :

0001423909

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Among these prototypes, Panel A commented on :

Prototype 60 P : Uniform in taste, clean, soft, but lacking some impact, especially at the beginning.

Prototype 62 P : Clean in taste, but lacking impact and liveliness and the flavour is not pronounced enough. Subjectively, this cigarette gives less response than 23 T and 53 T.

Prototype 64 P : The taste direction is similar to that of 53 T, but slightly lighter in taste.

For a better evaluation of the qualities and regularity of the blended cut-fillers, it was necessary to determine additional parameters. This was done by considering the differences between the two cut-fillers and their common qualities.
Note that the results stated on the following table were obtained with the cut-fillers and not with tobacco reclaimed from cigarettes.

00014391O

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

CUT-FILLER COMBINATIONS		100 % (23 T)	75 % (23 T) 25 % (53 T)	50 % (23 T) 50 % (53 T)	25 % (23 T) 75 % (53 T)	100 % (53 T)			
PARAMETERS ANALYSED							(A)	(B)	(R)
PO_4	%	0.63	0.70	0.73	0.80	0.86	0.632	0.002	0.989
Glucose	%	3.53	3.19	2.56	2.54	2.23	3.460	- 0.013	0.931
Fructose	%	4.42	4.10	3.39	3.29	2.95	4.380	- 0.015	0.950
Invert sugars	%	7.95	7.29	5.95	5.83	5.18	7.840	- 0.028	0.942
Saccharose	%	1.29	1.51	1.69	2.16	2.51	1.214	0.012	0.969
Glycerine	%	0.02	0.40	0.63	0.98	1.10	0.078	0.011	0.977
Propylene glycol	%	0.07	0.28	0.46	0.72	0.93	0.060	0.009	0.997
Ash	%	13.3	14.2	13.9	13.8	13.5	14.22	- 0.006	0.924
pH		5.6	5.6	5.6	5.8	5.7			

By using the simple linear regression model : $Y = A + BX$

where : Y = the amounts in % of the analysed parameters of the various combinations.
X = the additions in % of the 100 % (53 T) filler to the various combinations.

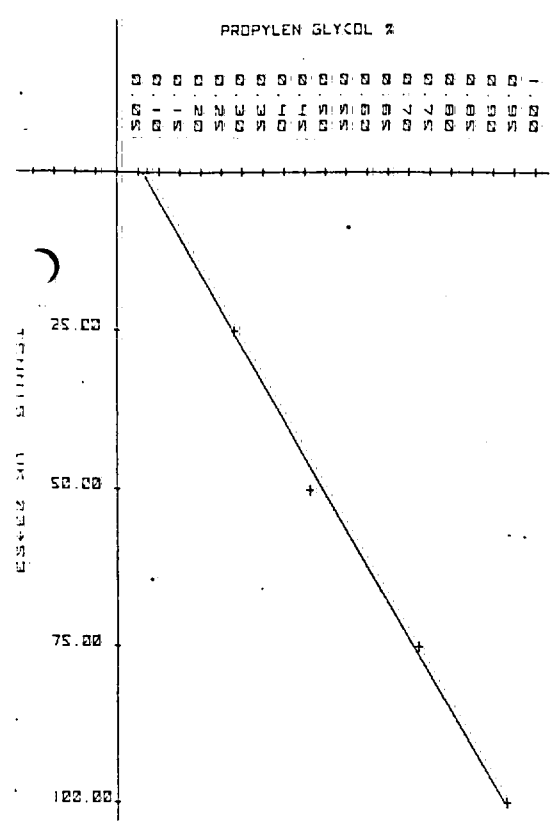
the Intercept (A) and Slope (B) were obtained and the correlation coefficients (R) calculated as stated (see attached graphs).

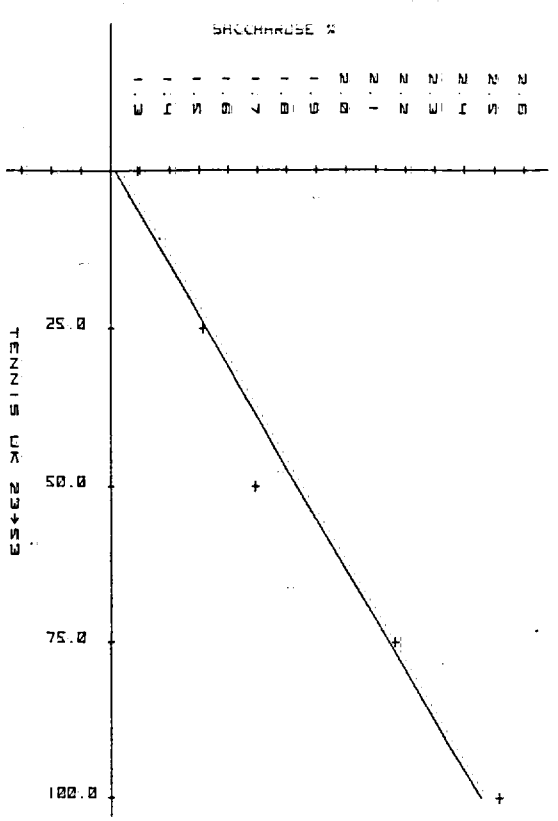
0001433911

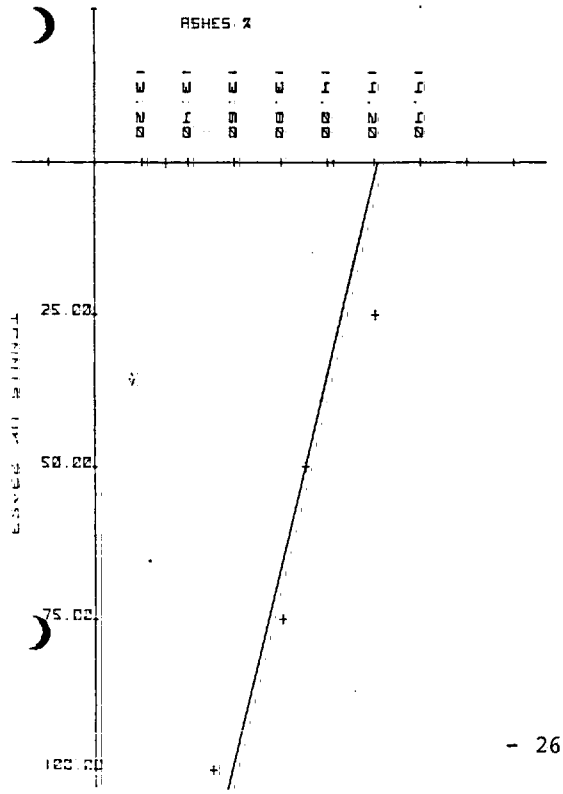
Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

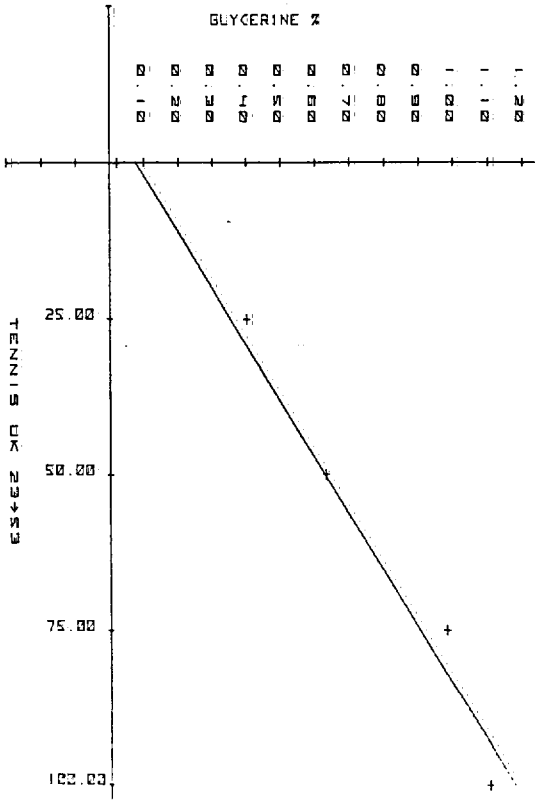
00143912

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000









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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Comments

The PO_4-content progressively increases in relation to the levels of the 100 % (53 T) filler added to the combinations. This is due to the fact that the 100 % (53 T) filler incorporates a high level of RL US in which the content of PO_4 is higher than that of the LTR UK present in the 100 % (23 T) filler.

Components		LTR UK	RL UK
Parameter PO_4	%	0.66	1.85

- The content of glucose and fructose (invert sugars) decreases in each of the combinations moving toward the final step 100 % (53 T). This is due to the increasing additions of the 100 % (53 T) filler which incorporates a high level of RL UK in which the content of invert sugars is ca. 50 % lower than that of the LTR UK present in the 100 % (23 T) filler.

Components		LTR UK	RL UK
Parameters analysed			
Glucose	%	2.33	1.75
Fructose	%	4.05	1.80
Invert sugars	%	6.38	3.55

- The saccharose-content increases with the increased inclusions of the 100 % (53 T) filler. This is probably due to the casings (sugar beet) and the better quality of tobacco grades used in the 100 % (53 T) filler.

- The content of propylene glycol and glycerine, both present in traces in the 100 % (23 T) filler due to the processing of the LTR UK, increases with the additions of the 100 % (53 T) filler which is fully cased.

- The ash-content slightly decreases when the levels of the 100 % (53 T) filler are increased. This is due to the better tobacco grades composing the 100 % (53 T) filler, which counteracts the high ash-content of the RL US present in the same cigarette.

Components	LTR UK	RL UK
Parameters analysed		
Ash %	14.2	15.3

- No significant changes may be seen in the pH combinations.

In general we can say that the blending of tobacco cut-fillers on a laboratory scale shows positive regularity. However, an industrial trial should be carried out before the potential of this blending process may be evaluated.

0001439 14

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

208 TENNIS UK MIDDLE STEP

Objective

The development of intermediary products of progressive qualities which moves toward the Pan-European MARLBORO for the UK.

Descriptions of samples and results

For the objective, the Leaf experts (Lausanne) prepared and issued a new leaf formula filed under GB0120805N02. This blend was used for the preparation of a 1'000 kg batch under No 943, for which the Burley portion was cased and the PC solution added under industrial conditions while the AC solution was later applied to the cut-filler in the laboratory.
A larger portion of the cut-filler was set aside and then split into five aliquots of 20 kg each. Four of these aliquots were treated with AC solutions at different concentration levels while the fifth one, "untreated", represented the control. Five cigarette prototypes were produced and analysed. The results are shown in the table on the next page.

Comments

The described cigarette prototypes were submitted to Panel A (Lausanne) for organoleptic evaluation. All the trials were found to deliver a dry harsh taste, closed, not uniform and on the wild side. Such defects seemed to be partially counteracted by higher levels of AC applications. Based on this, TENNIS development will be continued by adjusting the casing of the Burley portion. In addition, due to the positive taste results obtained on MLF incorporating RL which by-passed the bright treatment, Panel A recommends using the same process for future TENNIS development.

0000143915

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME : T E N N I S - MIDDLE STEP PROJECT NO : 208 PROJECT LEADER : ANF DATE : 01.19.1982

PROTOTYPE NO		55 P	56 P	57 P	58 P	59 P
VERSION		A	B	C	D	E
AC APPLICATIONS	%	0	100	50	75	125
CIGARETTE CHARACTERISTICS						
Format	mm	7.95 / 20 / 84				
Total cigarette weight	mg/cig.	1069	1065	1053	1064	1063
Tobacco weight	mg/cig.	842	837	825	840	836
Filter RTD	mm WG	62	63	62	64	61
Total RTD	mm WG	106	110	109	110	107
Dilution	%	20	19	20	20	20
Filler density at 12 % M	mg/ml	258	261	257	260	258
Compressibility at 12 % M	mm	2.97	3.21	3.12	3.22	3.28
FILLER CHARACTERISTICS						
Total alcaloids	%	1.78	1.75	1.76	1.78	1.75
Reducing sugars	%	9.8	8.8	8.7	9.6	9.2
Nitrate-Nitrogen	%	0.19	0.22	0.22	0.20	0.21
SMOKE ANALYSES						
DPM	mg/cig.	14.7	15.2	16.0	15.0	15.3
TAR	mg/cig.	13.7	14.1	14.9	14.0	14.3
SN	mg/cig.	1.04	1.07	1.09	1.01	1.03
CO	mg/cig.	14.9	15.6	15.8	15.1	15.5
NO	mg/cig.	0.23	0.24	0.26	0.24	0.26
Puff count		9.5	9.3	9.3	9.4	9.5

COMMENTS :

0001423916

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

208 TENNIS 23 UK

This report summarizes the results obtained with TENNIS 23 UK produced at PMH for the UK market and those of the latest prototype of this cigarette produced at FTR.

Objective

The development of a diluted MARLBORO cigarette with Pan-European characteristics, by using a special flavour system on the tobacco only, thus eliminating the use of flavoured filters while conforming to the Hunter list.

Description of samples and results

Due to the very peculiar physical and organoleptic qualities detected in some of the cigarettes produced in November 1981 at PMH and released for the UK market, immediate action was taken by sampling cigarettes from the lot blocked in London. The collected samples were labelled according to the date of production then taken to FTR for complete evaluation.
A comparison of the physical and chemical data between TENNIS 23 UK produced at PMH and that produced at FTR is stated in the tables on the next pages.
Cigarettes of the same production day were also analysed after removal of the filter (plain) in order to determine the actual yield of TPM, H_2O and SN. These values are shown in brackets. In the tables of results, each figure represents the cross-mean-value of three production days of two shifts each at PMH, while the values under the heading "FTR" are single results of the very latest TENNIS 23 UK prototype produced at FTR.

Comments

On the basis of the above overall averages and their comparison with those of TENNIS 23 UK produced at FTR, we came to the conclusion that all the cigarettes produced at PMH, with the exception of the afternoon shift production on November 12, 1981, were within the acceptance limits. We only suggested a more intensive control upon parameters such as :
- Filter rod diameter and RTD
- Cigarette firmness and end stability
these being found to be the most fluctuating parameters in the product. In general there were no significant differences concerning the physical and chemical values between the cigarettes of the two production centres.

00014391?

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Lausanne will issue their comments concerning the organoleptic qualities of the produced cigarettes.
Before re-starting production, we asked PMH, on December 14, 1981, to prepare a 3'000 kg-batch of tobacco blend TENNIS 23 UK. As soon as the cigarettes are produced, random samples will be taken and sent to FTR (R & D) for evaluation and the product should not be released until the full physical, chemical and organoleptic evaluations have been carried out and issued by FTR.

01.19.1982/ANF/cap

0000143918

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Production dates
Nov. 6, 1981
Nov. 10, 1981
Nov. 11, 1981

PARAMETERS ANALYSED		Min. values	Max. values	$\bar{X}$	S	" F T R "
CUT-FILLER						
TA	%	1.85	1.99	1.94	0.05	1.83
RS	%	8.7	9.9	9.3	0.44	8.5
$N\text{-}NO_3$	%	0.14	0.19	0.17	0.02	0.16
Filler density at 12 % M	mg/cig.	248	251	249	1.17	240
PICKING						
LEAF	%	71	78	74.5	2.43	75
VEINS	%	6	10	8.7	1.51	10
ES	%	5	7	6.3	0.82	5
LTR	%	8	15	10.5	2.35	10
FILTER						
Single denier		3.9	4.2	4.1	0.13	3.8
Section		I	I	I		I
Plasticizer	%	5.2	7.5	6.5	0.77	6.0
Efficiency	%	40	43	41.3	1.21	39
RTD	mm WG	58	69	64	3.83	61
CIGARETTE						
Total weight	mg/cig.	1008	1017	1014	3.43	983
Tobacco weight	mg/cig.	780	788	785	2.99	763
Paper porosity	$ml/cm^2/min.$	42.5	45.5	43.6	1.20	49
Dilution	%	8	11	9.7	1.21	11
Total RTD	mm WG	102	111	108	3.31	101
Compressibility at 12 % M	mm	3.40	3.76	3.57	0.12	3.46
SMOKE						
TPM	mg/cig.	17.3 (34.7)	18.5 (37.2)	17.95 (35.73)	0.48 (1.11)	17.6 (35.5)
H_2O	mg/cig.	1.3 (6.1)	1.6 (7.6)	1.45 (6.67)	0.10 (0.55)	1.6 (6.8)
DPM	mg/cig.	16.0 (28.2)	17.0 (30.1)	16.5 (29.05)	0.48 (0.72)	16.0 (28.7)
SN	mg/cig.	1.20 (1.95)	1.38 (2.19)	1.28 (2.08)	0.07 (0.09)	1.21 (2.02)
TAR UK	mg/cig.	15.1	16.0	15.6	0.43	15.1
CO	mg/cig.	13.2	14.4	13.9	0.46	13.5
NO	mg/cig.	0.16	0.19	0.18	0.01	0.17
Puff count		8.6	8.8	8.7	0.10	8.1

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Production dates
Nov. 12, 1981
Nov. 13, 1981
Nov. 16, 1981

PARAMETERS ANALYSED		Min. values	Max. values	$\bar{X}$	S	" F T R "
CUT-FILLER						
TA	%	1.90	2.04	1.95	0.05	1.83
RS	%	8.9	9.8	9.4	0.34	8.5
N-NO_3	%	0.16	0.19	0.17	0.01	0.16
Filler density at 12 % M	mg/cig.	247	250	248	1.10	240
PICKING						
LEAF	%	73	80	76.8	2.86	75
VEINS	%	5	10	8	2.12	10
ES	%	3	8	6.2	2.05	5
LTR	%	7	9	9	1.87	10
FILTER						
Single denier		3.8	4.2	3.9	0.15	3.8
Section		I	I	I		I
Plasticizer	%	6.1	7.5	6.9	0.52	6.0
Efficiency	%	39	42	41	1.41	39
RTD	mm WG	64	69	66	3.9	61
CIGARETTE						
Total weight	mg/cig.	1009	1018	1013	4.55	983
Tobacco weight	mg/cig.	782	790	785	4.44	763
Paper porosity	$ml/cm^2/min.$	41.5	49	45	2.81	49
Dilution	%	9	10	10	0.45	11
Total RTD	mm WG	101	117	110	6.24	101
Compressibility at 12 % M	mm	3.49	3.80	3.71	0.13	3.46
SMOKE						
TPM	mg/cig.	16.5 (34.2)	18.3 (35.5)	17.2 (34.98)	0.72 (0.48)	17.6 (35.5)
H_2O	mg/cig.	1.2 (5.9)	1.5 (6.5)	1.36 (6.22)	0.11 (0.22)	1.6 (6.8)
DPM	mg/cig.	15.3 (28)	16.8 (29.2)	15.8 (28.76)	0.61 (0.47)	16.0 (28.7)
SN	mg/cig.	1.17 (1.99)	1.29 (2.16)	1.22 (2.05)	0.49 (0.67)	1.21 (2.02)
TAR UK	mg/cig.	14.4	15.9	14.9	0.61	15.1
CO	mg/cig.	13.8	14.4	14.0	0.24	13.5
NO	mg/cig.	0.18	0.19	0.18	0.00	0.17
Puff count		8.3		8.6	0.26	8.1

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	CIGARETTE DEVELOPMENT 3
PERIOD COVERED	:	NOVEMBER 25, 1981 - JANUARY 11, 1982
WRITTEN BY	:	Nagel-P.

421 HILTON ULTRA

Objective

To develop a MERIT line extension in the ultra low tar sector.
TAR : 4 mg/cig.
SN : 0.4 mg/cig.
CO : around 4 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The objective described corresponds to the existing MERIT ULTRA LIGHTS cigarette developed and produced by PM USA, Richmond.
The specifications of the most promising prototypes, as well as those of the final product, have been useful for developing a cigarette similar to the US pattern while using the tobacco and non-tobacco materials available in Europe.

Description of samples and results

Until now the trials were made with two tobacco blends which differ from each other in the type of expanded tobacco used. The amount of expanded tobacco used was the same in both cases, i.e. 20 %

Blend No :	ET type :
IT0242101N02	ET-FC 21
IT0242102N02	ET-FC 24

The substitution of ET-FC 21 by ET-FC 24 led not only to an improvement as far as the organoleptic characteristics were concerned but also to an increase in TA content (from 1.5 to 1.75 %).

The flavour system applied was identical to that used for MERIT ULTRA LIGHTS in US.

Based on the results of the filter type and dilution prediction program, which takes into consideration the analytical figures of the reference cigarette and those aimed at in the project, several constructions were suggested.

2000143921

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Regarding the efficiency / RTD ratio as well as the influence on taste, 3.3 Y / 55'000 white tow appeared to be the most suitable filtering material for our task. The original 3.0 Y / 48'000 white tow had been received by the end of 1981 and is now being tested.

Trials were carried out with different cigarette papers in order to find out the one which was the most suitable for such a tobacco blend.

Cigarette paper designation	Porosity $ml/cm^2/min$	Burning rate sec/15 cm	Additive type	Additive content %	Fiber type
Ecusta 14511	44	unavailable	Citrate	2	Flax
Ecusta 14753	50	58	Citrate	1	Flax
Mauduit 110-6	41	45	Citrate	1.2	Flax/ hemp
Mauduit 110-6 M 1.5 Cl	42	S.C.	Citrate	1.5	Flax/ hemp
Mauduit 350 C	46	50.8	Citrate	0.87	Flax/ hemp
Pela 130 MNC	58.1	54.8	Citrate		Cellulose

Of all the prototypes produced, No 25, using the Pela 130 Mnc cigarette paper was selected as being the closest one to the US product as far as the taste and character were concerned.
The description of the two above-mentioned cigarettes is stated in the table on the next page.

0001143922

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

418 ARIZONA

Objective

To develop an American blend-type cigarette in the LTN sector for the Swiss market.
TAR : 3.0 mg/cig.
SN : 0.3 mg/cig.
CO : less than 6.0 mg/cig.
NO : less than 0.1 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The LTN cigarette sector has considerably increased its share of the market during the last few years. However, the market is still dominated in Switzerland by air-cured and Swiss blond-type (so-called European, ex. MURATTI) cigarettes. Therefore, the Swiss Marketing Department decided to launch a real American-type LTN product.
For this purpose, two prototypes Nos 8 and 11 P of project PITCH III as well as the PHILIP MORRIS SUPER LIGHTS cigarettes, from which the two former prototypes are derived, are very suitable.

Description of samples and results

Following the PMS specifications, the target TAR / SN values were achieved in both cases (versions 8 and 11) by using filtering materials of higher retention capacity.
The dilution level of prototype 8 remained in the same range as that of the PMS while the use of a very high efficiency acetate / paper double filter on prototype 11 led to a decrease in dilution which brought the value to within the target figures.
The two prototypes were developed with the same cigarette paper as that used in the past for the PMS cigarette, i.e. Ecusta-708. It had failed quality control as it had some great irregularities as far as the porosity and burning rate were concerned and was, subsequently, rejected and replaced by 110-6 from Mauduit.
No other development work will be undertaken; prototypes 8 and 11 were produced by employing the 110-6 cigarette paper.
The product test will be conducted with both prototypes and the PMS cigarette in mid-January. The physical and chemical characteristics of the two original prototypes of PITCH III, those of the corresponding ARIZONA cigarette and PMS are stated in the table on the next page.

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		H I L T O N	U L T R A
PROJECT NO		421	421
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		25 P	MUL (US) (1)
BLEND NO		IT0242102N02	MUL (US)
VERSION		A	----
TA	%	1.74	1.71
NITRATE-NITROGEN	%	0.21	----
REDUCING SUGARS	%	6.2	3.6
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	27
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	971	----
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	666	618
CIGARETTE RTD	mm WG	90	104
DILUTION	%	62	58
CIGARETTE PAPER		Pela 130 Mnc	Ecusta 14511
TIPPING PAPER		4 x M. 0.3 . 3.5	2 row laser
FILTER : TYPE		Single	Single
TOW		3.3 Y / 55'000	3.0 Y / 48'000
PAPER		FU-POV 100	260 M2
RTD	mm WG	105	122
TAR	mg/cig.	4.0	4.0
SN	mg/cig.	0.35	0.38
CO	mg/cig.	4.1	4.5
NO	mg/cig.	0.10	----
PUFF COUNT		8.6	7.7

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

(1) : US values

00014392 3

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PITCH III 8 C 1	4 T (F 36)
BLEND NO		FR0240501N02 ----------	
VERSION		A	A
TA	%	1.95	2.22
NITRATE-NITROGEN	%	0.25	0.22
REDUCING SUGARS	%	8.7	8.0
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	933	957
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	633	647
CIGARETTE RTD	mm WG	101	108
DILUTION	%	59	62
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	----	3.5
CIGARETTE PAPER		Ecusta 708	Mauduit 110-6
TIPPING PAPER		4 x M. 0.3 . 3.5 ----------	
FILTER : TYPE		Single ----------	
TOW		2.5 Y / 55'000 ----------	
ADDITIVE			
PAPER		FU-POV 100 ----------	
RTD	mm WG	129	129
TAR	mg/cig.	3.0	3.5
SN	mg/cig.	0.29	0.34
CO	mg/cig.	4.4	5.6
NO	mg/cig.	0.08	0.09
PUFF COUNT		8.0	8.5

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001439 24

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PITCH III 11	6 T (N-63)
BLEND NO		FR0240501NO2 ----------	
VERSION		A	A
TA	%	1.99	1.97
NITRATE-NITROGEN	%	0.24	0.23
REDUCING SUGARS	%	9.3	7.7
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	949	965
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	640	650
CIGARETTE RTD	mm WG	104	108
DILUTION	%	50	58
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	----	3.7
CIGARETTE PAPER		Ecusta 708	Mauduit 110-6
TIPPING PAPER		6 x M. 0.15 . 4.5 ----------	
FILTER : TYPE		Dual ----------	
TOW		2.5 Y / 48 - DICO TOP G 200 ------	
ADDITIVE			
PAPER		FU-POV 150 ----------	
RTD	mm WG	116	115
TAR	mg/cig.	3.2	3.3
SN	mg/cig.	0.31	0.28
CO	mg/cig.	5.3	6.6
NO	mg/cig.	0.10	0.12
PUFF COUNT		7.7	8.4

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001143925

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		A R I Z O N A	A R I Z O N A
PROJECT NO		418	418
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		PMS (CIR 8-9)	PMS (U 40)
BLEND NO		FR0240501N02 ----------	
VERSION		A	A
TA	%	1.81	1.90
NITRATE-NITROGEN	%	0.22	0.21
REDUCING SUGARS	%	8.7	7.7
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	921	925
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	638	645
CIGARETTE RTD	mm WG	100	95
DILUTION	%	58	60
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.33	3.50
CIGARETTE PAPER		Mauduit 110-6 ----------	
TIPPING PAPER		6 x M. 0.15 . 4.5 ----------	
FILTER : TYPE		Single ----------	
TOW		2.5 Y / 48'000 ----------	
ADDITIVE			
PAPER		FU-POV 150 ----------	
RTD	mm WG	106	103
TAR	mg/cig.	4.2	4.2
SN	mg/cig.	0.39	0.35
CO	mg/cig.	5.3	7.0
NO	mg/cig.	0.10	0.11
PUFF COUNT		8.0	8.5

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001143926

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

422 BUBBLE ULTRA

Objective

To develop a MARLBORO line extension in the ultra low tar sector.
a) TAR : 4 mg/cig.
SN : 0.4 mg/cig.
b) TAR : 5 mg/cig.
SN : 0.5 mg/cig.
FORMAT : 7.95 / 25 / 84 mm

Summary

The tobacco blend No PM0242201N02, version A, was incorporated into different cigarette constructions. Of all the prototypes produced, Nos 3 P and 5 P were selected for following up our development.

Description of samples and results

In order to bring the product more into the MARLBORO family, the given blend No PM0242201N02 underwent different treatments. For a description, see the table below. The previous processing version (A) is also given for comparison.

Blend No	----------PM0242201N02----------			
FTR batch No	865	897	898	899
Processing version	A	B	C	D
Type	MLF	MLF	MLF	MLF
Burley Casing	BUR-CAS STD ----------*----------*----			
Burley Top Flavour	BUR-TOP STD ----------*----------*----			
Pre-Cut	MF-PC	MF-PC	MF-PC	MF-PC
After-Cut	EAC-81	EAC-82	EAC-81	EAC-83

* : Only the US Burley tobaccos were treated.

The trials were run using the two constructions of prototypes Nos 3 P and 5 P and the blend of processing versions B / C / D.

Another additional version (11 P) was made by utilizing 3.3 Y / 55'000 white tow and the blend of processing version D with the aim to increase the cigarette RTD without changing considerably the filter efficiency.

All the prototypes including the repetitions of Nos 3 and 5 were submitted to the expert Panel A for taste evaluation.
Prototypes Nos 3 C1 and 27 P were chosen as being the most suitable for the objective of the project. Meanwhile, the tobacco treatment should undergo some improvements.
Prototype 11 P, which was rejected for the project, will be retained for the German market area (project INGE).

0001439277

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		B U B B L E	U L T R A
PROJECT NO		422	422
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		3 C 1	27 P
BLEND NO		PM0242201N02	PM0242201N02
VERSION		A	D
TA	%	1.74	1.76
NITRATE-NITROGEN	%	0.21	0.21
REDUCING SUGARS	%	9.0	9.3
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	866	888
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	612	633
CIGARETTE RTD	mm WG	84	78
DILUTION	%	53	60
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.50	3.20
CIGARETTE PAPER		Ecusta 753	WP 60
TIPPING PAPER		6 x M. 0.15 . 4.5	4 x M. 0.3 . 3.5
FILTER : TYPE		Single	Single
TOW		2.5 Y / 40'000	2.5 Y / 40'000
PAPER		FU-POV 150	FU-POV 100
RTD	mm WG	86	86
TAR	mg/cig.	5.7	4.5
SN	mg/cig.	0.45	0.37
CO	mg/cig.	6.2	5.4
NO	mg/cig.	0.10	0.10
PUFF COUNT		8.1	8.6

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001143928

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

429 LONG

Objective

To develop a full-flavour American blend cigarette in regular and king size formats.
TAR : around 18 mg/cig.
FORMAT : 7.95 / 18 / 79.4 mm
7.95 / 20 / 84.0 mm

Description of samples and results

The tobacco blend used, No YU014201N02, on which only the experimental casing and flavour solutions were sprayed, underwent MARLBORO-type tobacco processing. Using this blend, two versions were produced.
The non-tobacco materials utilized were those of undiluted regular and king size MARLBORO. After having been approved by the expert Panel A, the two candidates were submitted to the Marketing Department of Area IV.
The description of the cigarettes is presented in the table on the next page.

F. Nagel

01.15.1982/PHN/cap

0001143929

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT NAME		LONG	LONG
PROJECT NO		429	429
PROJECT LEADER		PHN	PHN
PROTOTYPE NO		1 T	23 T
BLEND NO		YU0141401N02	YU0141401N02
VERSION		A	A
TA	%	1.77	1.75
NITRATE-NITROGEN	%	0.25	0.23
REDUCING SUGARS	%	8.1	8.8
FORMAT : DIAMETER	mm	7.95	7.95
FILTER LENGTH	mm	20	18
CIGARETTE LENGTH	mm	84	79.4
TOTAL WEIGHT	mg/cig.	1079	1018
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	843	798
CIGARETTE RTD	mm WG	126	112
COMPRESSIBILITY AT 12 % O.V.	mg/cig.	3.41	3.76
CIGARETTE PAPER		WP 60	WP 60
TIPPING PAPER		Cork	Cork
FILTER : TYPE		Single	Single
TOW		3.4 I / 46'000	3.4 I / 46'000
PAPER		FU-POV 40 L	FU-POV 40 L
RTD	mm WG	67	59
TAR	mg/cig.	18.4	18.3
SN	mg/cig.	1.32	1.29
CO	mg/cig.	18.3	19.0
NO	mg/cig.	0.30	0.28
PUFF COUNT		9.4	8.9

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001439630

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	CIGARETTE DEVELOPMENT 4
PERIOD COVERED	:	NOVEMBER 28, 1981 - JANUARY 8, 1982
WRITTEN BY	:	Toïmil-R.

PME CIGARETTE DATA BANK

Objective

To introduce all the parameters of a project into the computer in order to be able to make the utmost use of the information on the projects.

Present situation

At the present time, all the information on the technical sheets, filters and materials used in filter manufacturing is stored in the PME Cigarette Data Bank.

Details of each group of information are as follows :

- Group 2 : Filter Materials
  20 filter additives : 23 technical sheets (PME)
  21 filter solutions : 4 technical sheets (PME)
  22 filtration materials : 29 technical sheets (PME)
  23 plug wraps : 59 technical sheets (PME)
  FTR filters : 32
  Filter Development + QC : 87

- Group 3 : Cigarette Materials
  30 cigarette papers : 97 technical sheets
  32 tipping papers : 237 technical sheets

- Group 80 : Glues : 6 technical sheets

The above gives a total of 11'100 pieces of information or results.

In a certain number of groups, some technical sheets were not entered as some information was missing :

6 in group 23
17 in group 30
90 in group 32
46 in group 34

The recording programmes of the projects are now finished. They will be made available to the users by mid-January 1982.

00014393

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Blend memorizing programmes will probably have been made by the end of January 1982.

The instruction manual for the entering of technical sheets concerning materials and filters has been finished.

An IBM 3287-2 printer has been set up in the Development laboratory. It is activated by means of a pre-programmed key, PA1, on the IBM terminals.

AREA IV

Two products have been launched in the Eastern countries :

TANDEM in USSR
PALINKA in Hungary

These projects have been dropped from the list of active projects.

01.14.1982/RAT/cap

0001143932

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : MATERIAL DEVELOPMENT

PERIOD COVERED : DECEMBER 1 1981 - JANUARY 26 1982

WRITTEN BY : Erkohen-E. (ELE)

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1. NEW FILTRATION MATERIAL

1.1 Eastman 2.5/40.000 Y Tow

Objective

2.5/40.000 Y tow evaluation. Possible replacement of the existing 3.4/46.000 I by this item.

Summary

For an RTD of 375 mm WG, an economy of 15% of cellulose acetate can be made by using the 2.5/40.000 Y tow instead of the 3.4/46.000 I tow. The corresponding material cost reduction is about 10%. A mail-out test was prepared in order to qualify this tow.

Result of the Mail-out Test

A mail-out test was sent to 310 Marlboro smokers and the evaluation was based on 263 valid answers, ie 85%. No significant taste criteria could be noted as far as total results are concerned. There was a slight preference for the trial(1). A final report was written on January 12 1982 (2).

1.2 Eastman 3.0/48.000 Y

Objective

For a new product development on the HILTON ULTRA project.

Summary

Based on the results given by the cigarette construction model, a 3.3/55.000 Y tow was proposed as a filtration material with 65% dilution. The RTD of the 25-mm plug with this tow item was 105 mm WG. The total RTD of the cigarette was 90 mm WG. We hoped to obtain a similar performance with a 3.0/48.000 Y item on HILTON ULTRA prototypes. The only advantage is economical: 10%-15% tow savings.

0000143933

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Results

The tow item was evaluated on the basis of its capacity curve (Fig. I). Filters made at the optimum point with 9% Estrobond B gave equivalent smoke results and RTD (plug, total cigarette) on the HILTON ULTRA prototype.

1.3 Eastman 2.1/42.000 Y

Objective

New product development.

Summary

In reply to Project Leader P. Nagel's request to reduce tar and smoke nicotine level on MLK cigarettes manufactured in Nigeria, we proposed to modify the filter tow item from a 3.4/46.000 I to a 2.1/42.000 Y tow based on the results given by the cigarette construction model.

Results

A trial run to establish the capacity curve was made on January 20 1982 on a KDF I machine without a transport jet. It was very difficult to establish the minimum point due to the machinability of the tow item. It was observed that the RTD varied too much on the filter rods obtained at this point. The results of the capacity curve is given in Fig. II. The filters obtained at the optimum point had a mean RTD of 480 mm WG for 120 mm rods.

Follow-up

Cigarettes with these filter rods will be produced in Nigeria and analysed at QA-PME. Results of the performance of this filter will be communicated as soon as they are available.

2. TIPPING PAPER

2.1 Malaucène Micro-Laser Perforated Tipping Paper

Objective

Possible replacement of existing tipping paper on MLF-CH and MLK-CH brands by laser-type perforated tipping paper.

00001439 34

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Summary

MLF-CH and MLK-CH cigarettes are produced with Benkert Z3/60 electro-perforated tipping paper (air permeability: 60 l/h 4 cm^{-1}). Due to deterioration of the quality of Benkert's tipping paper, the perforation has become visible. Sample MLK-CH cigarettes were made with laser-perforated tipping paper (qualities 3M 0,11.6.5, 3M 0,15.4.5, 2M 0,22.7.5, 4M 0,075.5.5) and compared with the MLK-CH standard cigarettes. From a delivery point of view, no significant difference was noted between any of the prototypes made. Panel B found the 3M 0,15.4.5, the 2M 0,22.7.5 and the 4M 0,075.5.5 to be equivalent tastewise to the standard MLK-CH. Panel A confirmed the same results. Panel A found that no trial prototype gave enough MLF characteristics. A mail-out test will be organized with the 3M 0,15.4.5 tipping paper against the current Z3/60 tipping paper from Benkert.

Follow-up

Cigarettes with the above-mentioned tipping paper will be made at the end of January 1982. The mail-out test will be sent during the second week of February. Results are expected in March.

3. New Experimental Hot-Melt Adhesive XB-525

Objective

Search for a new hot-melt adhesive for ultra-porous plug wraps (300K - 1000K).

Summary

Six bobbins of ultra-porous plug wraps were received last year. Due to bleed-through of the adhesive, it was not possible to glue the plug wraps at the speed of 400 m/min on the rod makers. We asked for Ecusta's assistance on this matter and received 10 kg of hot melt XB-525. We were recently informed by Ecusta that this material was still under development.

Follow-up

Based on this recent information, we are not going to try this hot-melt until it is fully developed.

0000143935

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

4. Assistance to Projects

4.1 HILTON ULTRA 3 mg Tar 0.3 mg Smoke Nicotine

For the development of this prototype a 2.5/48.000 Y tow was proposed with 73% dilution. The total RTD of the cigarette with the construction proposed will be 95 mm WG.

4.2 Development of a 3.6 mg Tar and 0.4 mg Smoke Nicotine Prototype based on the California Blend

Based on the results given by the cigarette construction model, a 2.5/55.000 Y tow was proposed as a filtration material with 65% dilution.

References

(1) Report from Stampfli-M. to Erkohen-E. January 7 1982
(2) Report from Erkohen-E. to Lopes-F. January 12 1982.

ELE/nod/JANUARY 27 1982

2000143936

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

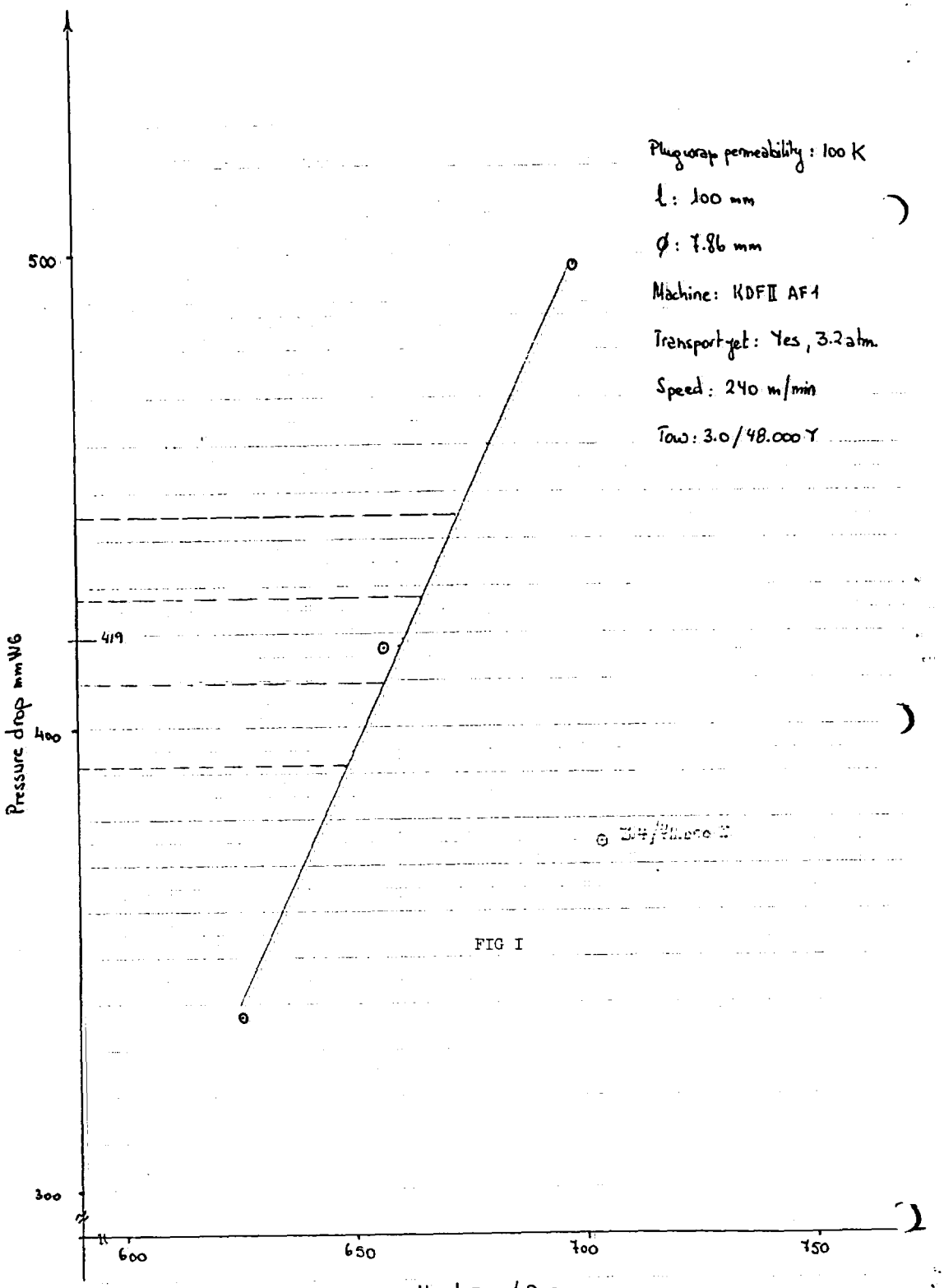

FIG I

ELE 15.12.1981

0001143937

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Plugwrap : non-porous 25 g/m²

Rod length : 120 mm

ϕ : 7.86 mm

Transport jet : no

Speed : 300 m/min.

Tow type : 2.1/42.000 Y

Machine KDF I - Baumgartner

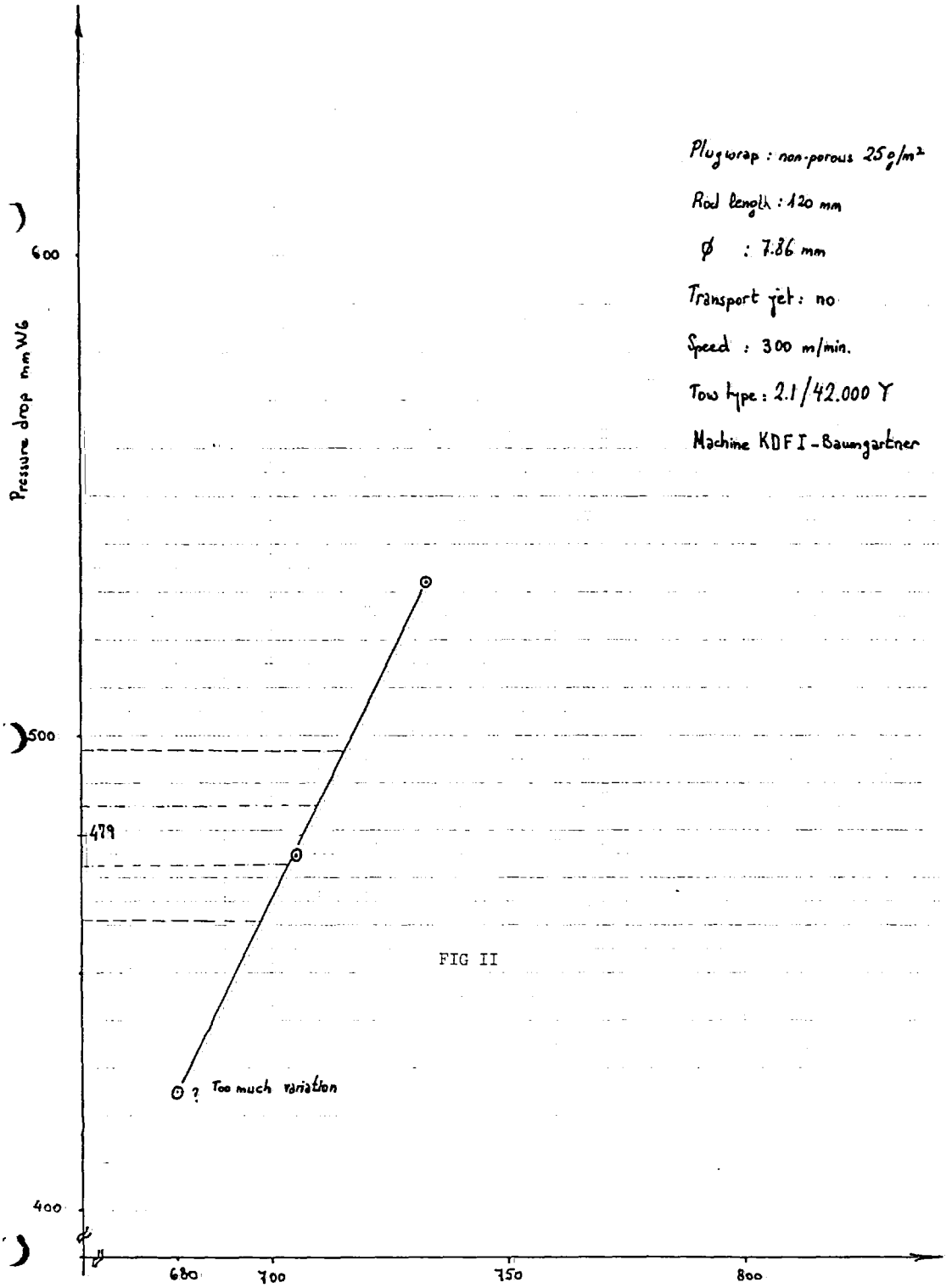

FIG II

ELE : 25.1.82

0001143938

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : TOBACCO STUDIES

PERIOD COVERED : NOVEMBER 27 1981 - JANUARY 26 1982

WRITTEN BY : Joseph-L. (LIJ)

TOBACCO LOT ANALYSES

Zambia MD Tobacco

In order to find other sources of supply for MD tobacco, three lots of Zambia MD tobacco were ordered (Lots 2180, 2181, 2182). Each lot was separated into four grades. The TLA on the four grades of the three samples are under way.

French Burley Tobacco

A TLA was made for the leaf purchases on a lot of Burley tobacco from France (Lot 3940). This tobacco has a very low TA and SN delivery. The NO_3-N content and the NO delivery are also low.

CSSR Reconstituted Tobacco

The physical quality of this sheet is very poor. It forms a lot of dust during cutting and does not have a good machinability on the cigarette maker. The filling power of the cut sheet was also lower than our usual reconstituted tobacco.

In comparison with LTR, the smoke analyses of this reconstituted tobacco show poor combustibility (similar to the one of the US RCB) and slightly higher DPM delivery. The other parameters are similar to those of LTR.

RLC, Lot 9695

This lot is the first shipment of a new RL with cooked flavours that should have a better filling power and a lower equilibrium moisture content than the former RL. Unfortunately, due to the insufficient accuracy of the conditions in the room used for the conditioning of the samples, it is difficult to make comparisons. However, the tobacco moisture content analysed during the determination of the filling power and of the firmness of the cigarettes and also during the preparation of the cigarettes for the smoke analyses, do not show any significant differences with the former RL moisture content.

0000143939

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Three TLA analyses were made on this lot. The first two samples were taken from two different hogsheads. The third was a mixed sample from different hogsheads. The mixed sample had a part which was lighter in colour than the rest of the sample and indeed was also lighter than the other samples. Its odour was also different. In the TLA analyses the main differences between this later sample and the other two are a higher NH_3-N level (0.58% instead of 0.20% for the others), a higher phosphate level (1.57% instead of 0.46%), a lower aldehyde delivery (1.19 mg/g of burnt tobacco instead of 1.81 mg/g of burnt tobacco) and a little higher HCN delivery (163 µg/g of burnt tobacco instead of 122 µg/g of burnt tobacco). A confirmation of the NH_3-N and phosphate content is under way, and the hogsheads from which the mixed sample came will be inspected.

EXPANDED TOBACCO

ETNA LGT (Lot Ø6ØØ)

A TLA analysis was made on a special FC expanded blend created for incorporation into low tar cigarette blends. The TLA analysis of this expanded blend showed up about 1% more TA than the normal ET-FC (2.42% instead of ∿ 1.40% for the normal ET-FC), higher SN delivery (2.88 mg/g of burnt tobacco instead of ∿ 1.50 mg/g of burnt tobacco), higher DPM delivery (36.1 mg/g of burnt tobacco instead of ∿ 26.0 mg/g of burnt tobacco).

The reducing sugars content of this lot is also lower (6.4% instead of ∿ 15.0%). These smoke delivery comparisons were made between cigarettes with similar physical characteristics (RTD, compressibility).

Benson & Hedges Expanded FC Tobacco

A special sample of expanded FC tobacco from Benson & Hedges (Canada) was analysed. The first results show a higher filling power for this sample in comparison with the normal ET-FC ex Onnens (84.0 ml/10 g at 12.7% m.c. instead of 62.4 ml/10 g at 12.9% m.c. for the Lot Ø715). In consequence, the cigarettes show a better compressibility (2.84 mm at 12.4% m.c. instead of 3.23 mm of 12.4% m.c.) with a lower tobacco weight (442 mg instead of 493 mg). The tobacco analyses are similar to our ET-FC, but the smoke analyses show a lower DPM delivery (18.7 mg/g of burnt tobacco instead of ∿ 23.5 mg/g of burnt tobacco), lower HCN delivery (265 µg/g of burnt tobacco instead of ∿ 380 µg/g of burnt tobacco), a slightly lower aldehyde delivery (2,34 mg/g of burnt tobacco instead of ∿ 2.80 mg/g of burnt tobacco).

These smoke delivery comparisons were made between cigarettes with similar physical characteristics (RTD).

2000143940

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Expansion Trials in Onnens

TLA were made with two samples of expanded tobacco and one with cut tobacco for Mr. D. Borgognon. These samples are expansion trials at different temperatures with uncased tobacco. The analyses are under way.

ASSISTANCE TO OTHER PROJECTS

Eight reference cigarettes were made during this period for different projects: CATHERINE IR; SHOT PUT 'UK' IP; COUNTRY AU 3R; HILTON ULTRA 29R; CONTINENT IR; ARIZONA 7R; BUBBLE ULTRA 37R; BUBBLE ULTRA 38R.

LIBRARY

The normal TLA analyses of the 12 samples from Malawi are under way.

LEAR

The TLA analyses were made on two samples of Burley strips blend (control).

MISCELLANEOUS

Tunisia Tobacco

The chloride contents of seven samples of Tunisia tobacco were determined for the Agronomy Group. The levels were found to be between 1.85% and 3.48%.

COLDAC

The specifications for the introduction of the TLA into the HP 1000 data base have been established. The production control of ETNA, RCB and ESTHER was incorporated into these specifications.

LIJ/nod/JANUARY 29 1982

0001143941

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : INGREDIENT AND FLAVOUR DEVELOPMENT

PERIOD COVERED : NOVEMBER 25 1981 - JANUARY 25 1982

WRITTEN BY : Fatton J.-P. (JPF)

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388 / BUCA

Objective

Reduction in the Burley casing ingredients without significantly changing the taste.

Description

Prototype 13P was produced with a flavour system composed of EBC-25, a standard Burley top flavour, MF-PC and MF-AC. The taste evaluation gave the following results: the taste direction of the first three puffs was good compared with the current MLF but the following puffs gave less liveliness and impact, the flavour and tobacco taste were not well suited, a strange sour and bitter taste covered the mouth. In general, some salivation is lacking.

Follow-up

To make the taste cleaner a batch will be run using the standard application of MF-PC.

208 / TENNIS

Objective

Fine tuning of the taste.

Description

Due to the very positive results of the test, prototype 53P was chosen and will be produced in Bergen op Zoom. All recipes and preparation methods were transmitted to SOPA and to the Bergen op Zoom factory (1).

0001439 42

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

431 / EAST

Description

The recipes and preparation methods of the WEF flavour system were transmitted to PMG.

The recipes concerning Project BIRGIT: EBC-26, ETF-7, EPC-13 and EAC-91 were established and transmitted to PMG (2).

400 / 420 COMMONWEALTH

Objective

To develop Virginia cigarettes for the UK market.

Description

100 liters of 90-674 (95E) flavour base were prepared with the assistance of Mr. L.M. Evans. The recipes and preparation methods concerning the finished flavour were transmitted to PMH (3, 4).

CONTACTS WITH SUPPLIERS

34 samples of "building blocks" for tobacco flavours were received from IFF. SFC-DL-16, SFC-DL-17, SFC-DL-18 and SFC-DL-19 were received from PM Richmond as a contribution to the flavour library.

References

(1) Letter from Fatton-J.-P. to Frattolillo-A of 25.1.82 concerning "Flavour System TENNIS"
(2) Letter from Fatton-J.-P. to Singer-Z. of 25.1.82 concerning "Flavour Systems EAST"
(3) Letter from Evans-L.M. to Frattolillo concerning flavour 90-674 (95E)
(4) Letter from Fatton-J.-P. to Frattolillo-A. concerning "Flavour System MERIT 41 and COMMONWEALTH".

JPF/nod/JANUARY 28 1982

00143943

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : MATERIAL TESTING

PERIOD COVERED : JANUARY 1 - 31 1982

WRITTEN BY : Balliger-P (PBA)

POROUS PLUG WRAP

Wattens FY HP 40K

An industrial trial was performed with this filter paper on Marlboro cigarettes. The results were positive and therefore this material is considered as approved.

Glatz 1 LN 60883
Glatz 2 LN 60886

These two new variants of Glatz are possible alternatives to the standard quality FU POV 40L mainly used in Marlboro.

Qualification tests are currently being performed on this brand.

CIGARETTE PAPER

Miquel y Costas	Verge extra 1024 M85
Glatz	Verge 6/2 LN 53044

In order to widen our range of supplies, these two new qualities of cigarette paper were tested on Marlboro KS Germany (undiluted) against the standard quality Pela 200 Mn.

In the test, only the quality from Miquel y Costas gave good results. However, another test must be performed in order to confirm the pleasant taste of cigarettes made with this paper.

In addition, this quality will be tested on the diluted Marlboro KS Germany which is soon to be launched onto the market.

FILTRATION MATERIAL

Eastman 3.3/44000 Y

Following preliminary tests made with this material on Marlboro Pan European, an industrial trial will soon be performed at FTR to confirm its good machineability.

PBA/edk/FEBRUARY 4 1982

0001143944

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : CIGARETTE AND SMOKE ANALYSIS

PERIOD COVERED : JANUARY 4 - 25 1982

WRITTEN BY : Senehi-F (SEF)

EXPANDED TOBACCO USED FOR THE FIRST TIME BY BAT, UNITED KINGDOM

The manufacturer BAT uses 2 % expanded tobacco (ET) in the brand 555 State Express Filter Kings sold in the United Kingdom (1).

The analyses showed that this material was not produced using the Reynolds process.

We have been informed that BAT Southampton is producing about 200 kg/hr of expanded tobacco using the Airco process.

VISUAL CHECK OF THE DEFECTS OF PRODUCTION:
NEW FORM FOR THE REPORT

From February 1, 1982 onwards, the computer programs will be modified in order to have on the report the following new or modified information (2) (see table 1).

1. The total percentage of defects was replaced by the three classes of defects "slight, medium and serious".

2. Introduction of the physical parameter "Dilution".

3. The standard deviation 2 s mentioned in the report for the physical parameters was replaced by the standard deviation s.

PRODUCT REPORTS

Product Reports were written on the following new or modified brands:

Brand	Manufacturer	Country of sale
Imperial 85/F Soft (line extension)	Parco	West Germany
R 6 Special Mild Aroma 84/F Soft and Box (replaces R 6 Extra Légère)	Reemtsma	Switzerland

REFERENCES

1 Letter from Senehi-F (January 11 1982)

2 Letter from Senehi-F (January 25 1982)

Pierre Li

SEF/edk/JANUARY 28 1982

0000143945

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

QA - PME Neuchâtel

FINISHED PRODUCT QUALITY ASSURANCE

No	P	DEFECT	IQ	% L	% M	% G	MAC	MAP
		BUNDLE						
1	20	Wrong or incomplete packag.						
2	5	Packets stick to bundle						
3	5	Function of tear tape						
4	3	General aspect						
5	2	End label						
		TOTAL BUNDLE						
		FILM						
10	15	Missing						
11	5	Sticks to packet						
12	15	Packets stick together						
13	8	Burt sealed bad folded, torn						
14	3	Too loose, creased						
15	2	Too tight						
16	8	Scorched						
17	5	Tobacco under film						
		Tear tape						
18	90	Missing, tears up						
19	30	Damaged or missing tab						
20	10	Badly glued						
21	10	Sticks to packet						
22	5	Aspect						
		TOTAL FILM						
		PACKET						
30	15	Damaged torn						
31	80	Incorrect brand of cig						
32	80	Cigarettes missing						
33	15	Cigarettes up side down						
34	20	Badly glued						
35	10	Squashed						
36	15	Dirty						
37	10	Badly folded						
38	10	Colour comes off						
39	12	[illegible] damaged over flame board						
		Sticker						
40	80	Missing						
41	5	Badly placed						
42	10	Badly glued						
43	12	Dirty						
44	10	Damaged						

No	P	DEFECT	IQ	% L	% M	% G	MAC	MAP
		Foil						
45	30	Missing						
46	10	Damaged, torn						
47	8	Badly cut						
48	10	Crumpled, creased						
49	7	Badly embossed						
50	8	Badly placed, badly folded						
		Pull strip						
51	10	Missing						
52	10	Damaged						
		TOTAL PACKET						
		CIGARETTE						
		Function						
60	80	Incorrect tobacco						
61	60	Foreign matter						
62	80	Dirty						
63	80	Torn, perforated						
64	70	Oil spots						
65	80	Draws badly (joint)						
66	60	Loose ends						
67	60	Retracted ends						
68	40	Damaged tip						
69	50	Charcoal under tipping						
70	40	Seam of tip badly glued						
71	50	Seam of cig badly glued						
72	80	Charcoal filter outside						
		Aspect						
73	30	Crumpled or flattened cig						
74	30	Squashed or crumpled ends						
75	20	Tobacco stains						
76	20	Bad cut						
77	30	Creased tip						
78	40	Tobacco under seam						
79	30	Seam partly finished						
80	40	Missing stamp						
81	20	Defective print						
		TOTAL CIGARETTE						
		TOTAL BRAND						

FFR 4261

BRAND :

FACTORY :

PERIOD :

No OF TESTS :

No		Current	Specs	MAC	MAP
	Moisture (%)				
85	Average				
86	Standard deviation of averages *				
	WEIGHT (mg)				
87	Average of specified moisture				
88	Standard deviation of averages *				
	DIAMETER (mm)				
89	Average				
90	Standard deviation of averages *				
91	Averages of deviations **				
	R. T. D. (mm H2O)				
92	Average				
93	Standard deviation of averages *				
94	Averages of deviations **				
	DILUTION (%)				
97	Average				
98	Averages of deviations **				
	COMPRESSIBILITY (mm)				
95	Average at 12 % moisture				

Legend :

- No : Number of defects
- P : Ponderation
- IQ : Quality Index
- % L : Percentage of slight defects
- % M : Percentage of medium defects
- % G : Percentage of serious defects
- MAC : Cumulate annual average of IQ
- MAP : Average IQ last year
- * : Standard deviation of averages = $s = \sqrt{\frac{\sum d^2}{n-1}}$ number of checkings ≥ 5
- ** : Average of standard deviations = $\bar{s}$

- 60 -

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : QA ANALYTICAL SERVICES

PERIOD COVERED : DECEMBER 22 1981 - JANUARY 25 1982

WRITTEN BY : Widmer-A (ALW)

1.1. METHODS

- The following method was added to the method-file:
  - Determination of Nicotine in Cambridge Filter Extracts, Reference method (No 215)

    The nicotine is extracted from the Cambridge filter by isopropanol. The quantitative determination is carried out on a GC with ethyl caprate as an internal standard.

1.2. SPECIFICATIONS

- The following product specifications were added to the file:
  - Aqueous ammonia (No 10.0560)
  - Carbon dioxide (No 10.9801)
  - Meerschaum (part of P FM/036, Semi FLI)
- Charcoal (FA 011-2 and FA 058-1)

  The maximum limit of the iron content (magnetic particles, was increased to 0.7 % (instead of 0.3 %). This change is provisional and only valid for the supplier PICA. The final value will be discussed after revision of the method concerning the determination of magnetic particles (1).

3.7.1. TRIALS WITH SEAM GLUES

- "MONATEX D 4217" (MONARCOL MARKETING LTD, West Thurock (GB)/ yellow sheet 6150)

  This is a liquid glue based on starch. The glueing properties were comparable with those of the standard glue (LESSO 1487 X 3). However, as its viscosity is too low (2400 cps), the glue has a tendency to pass through the cigarette paper.

  As the storage time and the conservation of starch-based liquid glues lead to delicate problems and as the production center of MONARCOL is in Great Britain, further trials are not planned.

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

3.8.1. TRIALS WITH PACKING GLUES

- Trials in connection with the speed up of a MOLINS HL packing machine in Cousset (2)

  - "LESSO V 3B" (LAESSER AG, Erlinsbach/yellow sheet 6186, 50 kg)

    The trial was run at 225 HLP/min. The glueing properties on the machine were satisfactory. A significant improvement was found as regards the formation of a film and foam, compared with the previous trial with the type "LESSO V 3A".

    The trial will be repeated when the MOLINS HL is functional at 250 HLP/min.

5.1. PRODUCT QUALITY

- BSB-cigarettes (Production N 42) (3)

  During the production a significantly greater number of spots were detected on the cigarettes.

  As it was decided to no longer treat the reconstituted tobacco with PC-solution, the solution is now applied to a smaller quantity of tobacco. In this case, the risk of a lower regularity with resulting higher local concentration of additives (e.g. humectants) is increased. High local concentrations of humectants are responsible for the formation of spots.

  Furthermore, when large amounts of Burley tobacco, which has not undergone any special treatment, are added to the blend, the formation of local concentrations seems to be favoured. Therefore, blends having large amounts of reconstituted tobacco and large amounts of not specifically treated Burley tobacco represent a potential risk for the formation of an increased number of spots on the cigarettes (4).

5.3. ASSISTANCE TO OTHER AFFILIATES

- Assistance for the ETNA-plant in PMH Bergen op Zoom

  Humectants in tobacco (16 samples)

REFERENCES

1 Letter from Widmer-A to PICA, Lavallois (January 8 1982)
2 Monthly report Widmer-A (November 1981)
3 Letter from Schwarb-A to Grossen-E (January 13 1982)
4 Letter from Schwarb-A to Niklaus-P (January 15 1982

ALW/edk/ FEBRUARY 4 1982

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	SPECIFICATIONS
PERIOD COVERED	:	DECEMBER 1 1981 - JANUARY 25 1982
WRITTEN BY	:	Kopp-A.-M. (AMK)

1. FTR Switzerland

1.1. New Specifications

- Tobacco expansion process for the following four types of blend : flue cured, flue cured light, Burley and Swiss.
- Complete file for project "BELTOISE", MAC Muratti Ambassador Extra Mild, for standard export (MAC 009) and for sale in Morocco (MAC 214).
- Packing specifications for 3-cigarette sample packets of MLY Marlboro Lights and MLF 030 Marlboro filter for Sweden.

1.2. Changes in Processing

- Blend ML 022 Marlboro with 3.3% ESTHER instead of 4.7% and 6.0% expanded tobacco instead of 4.1% as from 11 January 1982.
- Modifications in the percentages of expanded stems and tobacco as well as of Burley in nine blends.
- 14 processing specifications were modified in "Reconstituted Tobacco without Pre-Cutting Application".

1.3. Changes in Cigarettes

- New Accu-Ray limits for the four Marlboro cigarettes, as well as MAA Ambassador and MAK Ambassador King Size.

2. PMH-Holland

2.1. Changes in Processing

- Modified percentages of expanded stems, improved stems and normal additions of stems in the blends Armada AR 002/003, Ambassador MA 004/005, Marlboro MB 001 and North Pole NP 001 since January 1, 1982.
- New percentages of expanded stems and improved stems in the standard Marlboro blend ML 017 : 3.3% expanded stems instead of 9.4% improved stems and 6.0% expanded tobacco instead of 4.0% since January 1, 1982.
- Due to capacity problems on Munich's stem line and to drying/ shipment/add-back problems with improved stems, PMH will use this tobacco in very small amounts in the future.

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

2.2. Changes in Packing

- Price increase of Luxemburg brands.
- Introduction of warnings and smoke numbers on packs in Holland and Belgium.
- Bundle paper replaced by overwrapped display carton on MLF 080 Marlboro sold in the Channel Islands.

3. PMG-Munich/Berlin

3.1. New Specifications

- Packing specifications PMS 091-073-210 for the sale of Philip Morris Super Lights in Gabon, Holland and the Belgian Army.

3.2. Changes in Processing

- From January 1, 1982, introduction of 6% expanded tobacco instead of 4% and of 3.3% improved stems instead of 4.7% in all Marlboro blends : ML 010, 012, 025 and 026.

3.3. Changes in Packing

- Price increase to 3.15 DM per packet of 20 cigarettes, and corresponding modifications for packets sold in vending machines.

4. PMB-Brussels

4.1. Withdrawal of Specifications

- DYK Darcy King Size Filter
- PMF Philip Morris Filter

4.2. Changes in Cigarettes

- Adaptation of non-tobacco material weights and material codes in 12 specifications.

4.3. Changes in Packing

- Warnings and smoke numbers must now be printed on packets sold in Holland and Belgium.

5. Licensees

5.1. Greece

A new, complete file has been issued for Papastratos, Pireaus.

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

5.2. Italy

Project specifications have been prepared for project "LOS ANGELES", the diluted MAA/MAK Ambassador cigarettes to be produced at Roverto. As regards the filter to be manufactured by Intertaba, Zola Predosa, a test will be organized to know whether the 24K or 40L filter paper is to be used in this production.

5.3. Hungary

The packing specification MPM 330 Multifilter King Size Soft, Eger production, has been reviewed.

5.4. Czechoslovakia

The Rok Roy King Size Specifications have been updated. As regards the packet, the price as well as a warning will be printed on the label.

5.5. Finland

A new packing specification for MLW 300 Marlboro Lights Hinge Lid, for sale in Finland, has been prepared.

6. Material Specifications

6.1. An MPP and QC co-ordination meeting took place in Neuchâtel on December 3, 1981.

6.2. The following material specifications were submitted to PME suppliers :

- Meerschaum (part of PFM 036) to Baumgartner, Switzerland
- Tipping paper Korkopor Z/3/30 (TP 111, MLB-UK) to Benkert, Germany
- Cigarette paper verge 1105 A (MLK-DB) to Mauduit, France
- Cigarette paper verge 753-bis (MER-DB) to Mauduit, France
- Tow 3.3/44'000 Y (PFM 045) to Eastman Chemical.

6.3. The following material specifications were distributed to the file holders :

- Carbon dioxide "40", No 10.9801
- Aqueous ammonia, No 10.0560

7. PME Methods

7.1. Method No 215 "Nicotine-Dosing in Cambridge Filter Extracts in mg Nicotine/Cigarette - Reference Method".

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

8. Standard Recipes

8.1. New Recipe : MAG-AC No 12.2036 for project "COLORADO".

a Koth

AMK/jud/JANUARY 27, 1982

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE	:	COMPUTER AND INSTRUMENTATION SUPPORT GROUP
PERIOD COVERED	:	23 DECEMBER 1981 - 22 JANUARY 198
WRITTEN BY	:	Thévoz-M. (MIT)

Automation of the Smoking Laboratory (Project COLDAC)

An interactive inquiry programme, written in the "QUERY" language (IMAGE software) (1), has been developed by our group and it permits selective access to the different analytical results. This programme is currently working on the data base model which is used for various simulation work. The inquiries tested at the present time are performed via about one hundred menus, each comprising eight selective function keys. Detailed information relating to each key appears on the screen when it is used. These menus serve as a simple and efficient interface between the operator and the data base, which in turn enables the following work to be performed :

- To obtain a complete report on a given sample on the screen;
- To acquire a detailed list showing the state of any analyses in progress in the laboratory;
- To correct any of the results contained in the data base;
- To delete any analytical data of a group of samples;
- To analyse in detail the structure and capacity of the data base;
- To prepare backup copies on magnetic tape;
- To produce simple graphs for routine checking of certain types of cigarettes.

This first inquiry and key-function access model will permit us to reach the following objectives :

- To ensure that the various users become familiar with the concept of a data base;
- To ensure that the operators become familiar with the terminals;
- To check the validity of the statements in the various specification lists;
- To define more precisely the final structure of the data base;
- To check the access logic requested by the various users.

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

Training Courses (Project COLDAC)

A one-day introduction course on the concept of the data base and the use of HP 3075 data capture terminals has been organized for the end of January 1982 for future users.

Hewlett-Packard will also give some courses, which are more specialized, in February 1982. These will treat acquisition problems in real time and they will complete the training of the various members of the Computer and Instrumentation Support Group.

By the end of the period covered by this report, we had received all the specification list drafts which normally should have reached us by the beginning of December 1981.

1. Thévoz-M. Monthly Report pp 47-48 (October 1981)

MIT/jud/JANUARY 20 1982

0001143954

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

PROJECT TITLE : PATENTS

PERIOD COVERED : DECEMBER 17 - JANUARY 16, 1982

WRITTEN BY : Mandiratta-J-C. (MJA)

RENEWAL FEES

Renewal fees have been paid for the following patent applications / patents :

Switzerland	560022	Method for processing low wood content non tobacco plant material into tobacco substitute.
West Germany	PS2210255	
Great Britain	1331914	
France	2129458	
West Germany	AS2307884	Tobacco substitute.
Switzerland	574717	
Great Britain	1412878	
Bulgaria	26801	
France	2174637	
Great Britain	1413177	Process for the manufacture of regenerated tobacco.
West Germany	PS2811690	Process of treating tobacco through the reduction of nitrates and nitrites. (Anaerobic Fermentation).
Swiss appl.	3426/79	
Great Britain	1585023	
Luxemburg	79039	Process of treating tobacco through the reduction of nitrates and nitrites. (Aerobic Fermentation).
Swiss appl.	592/79	
Netherlands	7900761	
Belgium	874050	
France	2014031	
Australian appl.	43472/79	
Italian appl.	19955A/79	

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

NEW PATENT APPLICATION

Method of tobacco treatment (CANDIDAAROMA).

The above-mentioned application has been filed via the European Patent Office. Designated States: West Germany, Switzerland, the Netherlands, Belgium, Great Britain, France and Italy.

BENKERT'S WEST GERMAN PATENT APPLICATION P 25 31 285
- ELECTRICAL PERFORATION OF TIPPING PAPER -

The German Patent Court has accepted a claim concerning the above-mentioned application. Benkert has been requested to submit new patent specifications complying with the accepted claim by February 25, 1982. The prior art has been collected and the same will be discussed with Fish & Neave in Richmond to decide whether to oppose the newly accepted claim or not.

MJA/mle/January 22, 1982

0014395

Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000

T S OSDENE

FEB 17 1982

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Source: https://www.industrydocuments.ucsf.edu/docs/hgxk0000